

What is claimed is:

1 1. A virtual reality modeling language
2 (VRML) interface device comprising:

3 a World Wide Web browser wherein said
4 browser includes a VRML viewer plug-in;

5 at least one external database storing a
6 plurality of first image files wherein said plurality
7 of first image files are created on differing
8 software platforms; and

9 a VRML interface software program installed
10 onto said browser wherein said program compiles
11 visual information from said plurality of first image
12 files and creates a second image file based on said
13 plurality of first image files wherein said second
14 image file can be viewed independent of computer
15 platform.

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1 2. The device as recited in claim 1
2 further comprising a database interface to
3 communicate between said browser and said at least
4 one external database.

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1 3. The device as recited in claim 2
2 wherein said database interface is a common gateway
3 interface (CGI).

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1 4. The device as recited in claim 2
2 wherein said database interface is a Java Applets
3 routine.

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1 5. The device as recited in claim 1
2 wherein said plurality of first image files are
3 composed in a Gerber format.

1 6. The device as recited in claim 1
2 wherein said plurality of first image files are
3 composed in a CAD format.

1 7. The device as recited in claim 1
2 wherein said second image files are composed in a
3 JPEG format that can be viewed independent of
4 computer platform.

1 8. The device as recited in claim 1
2 wherein said second image files are composed in a GIF
3 format that can be viewed independent of computer
4 platform.

1 9. A virtual reality modeling language
2 (VRML) interface system for printed circuit board
3 (PCB) manufacturing comprising:

4 a World Wide Web browser wherein said
5 browser includes a VRML viewer plug-in;

6 at least one external database storing a
7 plurality of first image files wherein said plurality
8 of first image files are created on differing
9 software platforms;

10 a VRML interface software program installed
11 onto said browser wherein said program compiles
12 visual information from said plurality of first image
13 files and creates a second image file based on said
14 plurality of first image files wherein said second

15 image file can be viewed independent of computer
16 platform; and
17 a printed circuit board (PCB) assembly
18 facility wherein assembly operators assemble PCBs
19 from said second image file.

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1 10. The system as recited in claim 9
2 further comprising a database interface to
3 communicate between said browser and said at least
4 one external database.

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1 11. The system as recited in claim 10
2 wherein said database interface is a common gateway
3 interface (CGI).

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1 12. The system as recited in claim 10
2 wherein said database interface is a Java Applets
3 routine.

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1 13. The system as recited in claim 9
2 wherein said plurality of first image files is
3 partially comprised of Gerber images of PCB artwork.

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1 14. The system as recited in claim 9
2 wherein said plurality of first image files is
3 partially comprised of CAD images of electronic
4 components used in assembling said PCB.

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1 15. The system as recited in claim 9
2 wherein said plurality of first image files is
3 partially comprised of a VRML database.

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16. The system as recited in claim 15 wherein said VRML database is partially comprised of fiducials.

17. The system as recited in claim 15 wherein said VRML database is partially comprised of reference designators.

18. The system as recited in claim 15 wherein said VRML database is partially comprised of 2-D coordinate location information for components to be assembled on said PCB.

19. The system as recited in claim 15 wherein said VRML database is partially comprised of rotation information for components to be assembled on said PCB.

20. The system as recited in claim 15 wherein said VRML database is partially comprised of package type information for components to be assembled on said PCB.

21. The system as recited in claim 9 wherein said second image files are composed in a JPEG format that can be viewed independent of computer platform.

22. The system as recited in claim 9 wherein said second image files are composed in a GIF format that can be viewed independent of computer platform.

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1 23. A method to generate a second VRML
2 image file based on a plurality of first image files
3 created from differing software platforms comprising
4 the steps of:

5 assembling at least one external database
6 that contains said plurality of first image files
7 created from differing software platforms;

8 loading a VRML interface software program
9 onto a World Wide Web (WWW) browser wherein said
10 program compiles visual information from said
11 plurality of first image files and creates a second
12 VRML image file based on said plurality of first
13 image files wherein said second VRML image file can
14 be viewed independent of computer platform;

15 accessing a WWW server by using said WWW
16 browser and using a database interface to access said
17 plurality of first image files; and

18 downloading said plurality of first image
19 files and using said VRML interface software program
20 to generate said second image file.

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1 24. The method as recited in claim 23
2 further comprising the step of viewing said second
3 image file by utilizing said WWW browser wherein a
4 VRML viewer plug-in is loaded onto said browser.

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